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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,619	10/17/2000	Marco Di Benedetto	112025-0200	1705
24267	7590	06/14/2004	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			FERRIS, DERRICK W	
			ART UNIT	PAPER NUMBER
			2663	5

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,619

Applicant(s)

BENEDETTO ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-27 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Information Disclosure Statement

1. Some of the references on IDS filed 3/14/02 were not considered because these references were already cited on IDS filed 3/15/01.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-9 and 11-27** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,188,694 B1 to *Fine et al.* (“*Fine*”).

The applied reference possibly has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131. The examiner assumes for the purpose of the rejection that there is no common assignee since the inventive entity is not the same.

As to **claim 1**, *Fine* teaches operating more than one instance of spanning tree by using the shared spanning tree protocol. Thus the shared spanning tree region receives a plurality of multiple instance spanning tree protocols at one or more of the intermediate devices from remaining one of the intermediate devices, each intermediate device containing a spanning tree identifier. In particular, the spanning tree instance identifier is the primary VLAN as defined by *Fine*, see e.g., figure 3a and 3b in reference to column 10, lines 20-64. Spanning tree prevents loops and thus a step of processing is also taught as part of column 10, lines 20-64. A step of mapping is performed when the primary VLAN is loaded in the VLAN tag field, see e.g., column 11, lines 29-54. As such, the shared spanning tree protocol maps more than one VLAN to an instance of the spanning tree. Thus a step of distributing using messages tagged with a given VLAN destination across the loop-free to which the given VLAN destination is mapped is also taught at e.g., column 11, lines 29-54.

As to **claims 2-5**, see e.g., column 10, lines 50-67.

As to **claim 6-8**, see e.g., column 1, line 62 – column 2, line 55.

As to **claim 9**, see e.g., column 9, lines 25-35. In particular, the at least one type of MI-STP BPDU is a SST-PDU shown in figure 3a.

As to **claim 11**, see e.g., column 12, lines 5-19.

As to **claims 12-14**, see e.g., column 17, line 59 – column 18, line 64.

As to **claims 15-18 and 19-21**, see e.g., column 20, line 18 – column 24, line 7.

As to **claim 22**, see similar rejection to claim 1.

As to **claim 23**, see e.g., column 10, lines 50-65.

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As to **claim 24**, see e.g., column 11, lines 40-54.

As to **claim 25**, see similar rejection to claim 7.

As to **claims 26-27**, see similar rejection to claim 1.

4. **Claims 1, 2, 3, 9, 22, 23, 24, 26, and 27** are rejected under 35 U.S.C. 102(a) as being anticipated by “Draft Supplement to Virtual Bridged Local Area Networks: Multiple Spanning Trees” to *Chambers et al.* (“*IEEE P802.1s/D6*”).

As to **claim 1**, *IEEE P802.1s/D6* discloses mapping VLANs to spanning trees as part of an MST. Thus with respect to the steps of receiving, processing, mapping, and distributing, see e.g., Section 6.7.1 starting on page 9, Section 8.4 starting on page 12, and Section 8.15.3 starting on page 16. In particular, *IEEE P802.1s/D6* teaches a multiple-spanning-tree (MST) environment that maps each VLAN to a spanning tree where multiple VLANs can co-exist over any given spanning tree, see page 9, line 52 – page 10, line 3. Specifically, a spanning-tree-context identifier (STCI) as taught by *IEEE P802.1s/D6* is one example of a spanning tree instance identifier. Examples of how the MST is applied in a network are shown in figures 6-2 and 6-3 with respect to one or more intermediate device as recited in the claims. For example, see section 8.11.7.4 on page 14 where an MST Bridge is configured to act as a root bridge with respect to distributing messages.

As to **claim 2**, see e.g., Section 13.2 starting on page 22.

As to **claim 3**, see e.g., Section 13.4.1.2 starting on page 24.

As to **claim 9**, see e.g., Section 8.11.7.4 on page 14 and 13.4.1.2 starting on page

24.

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As to **claim 22**, see similar rejection to claim 1.

As to **claim 23**, see similar rejection to claim 1.

As to **claim 24**, see instance is independent and thus maintains a separate state in reference to a state machine.

As to **claim 26**, see similar rejection to claim 1.

As to **claim 27**, see similar rejection to claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over “Draft Supplement to Virtual Bridged Local Area Networks: Multiple Spanning Trees” to *Chambers et al.* (“*IEEE P802.1s/D6*”) in view of “VLAN Trunk Protocol” to *Cisco*.

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) the difference of differences in the claim(s) over the applied cited references;*
- c) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

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As such to **claims 4-5**, for step (a) *IEEE P802.1s/D6* discloses limitations in the base claim.

For step (b) *IEEE P802.1s/D6* is silent or deficient to the further limitation wherein the step of configuring is performed by a VLAN distribution protocol. In particular, *IEEE P802.1s/D6* teaches dynamic configuration in general in Section 11 (1998 edition).

Cisco teaches the further recited limitation above at e.g., page 2.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *IEEE P802.1s/D6* by configuring the VLANs uses a VLAN distribution protocol.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation wherein the step of configuring is performed by a VLAN distribution protocol. In particular, the motivation for modifying the reference or to combine the reference teachings would be to automatically or dynamically configure switches in a network that support VLANs in order to reduce the need for additional configuration. In particular, *Cisco* cures the above-cited deficiency by providing a motivation found at e.g., page 1. Second, there

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would be a reasonable expectation of success since the configurations being modified are for standard VLANs running on Cisco boxes. Thus the references either in singular or in combination teach the above claim limitation(s).

7. **Claims 6-8, 11-14, 19-21 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over “Draft Supplement to Virtual Bridged Local Area Networks: Multiple Spanning Trees” to *Chambers et al.* (“*IEEE P802.1s/D6*”) in view of “ISO/IEC 15802-3: 1998 ANSI/IEEE Std 802.1d, 1998 Edition” to *IEEE* (“*IEEE 802.1d*”).

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) *the difference of differences in the claim(s) over the applied cited references;*
- c) *the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) *an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claims 6-8**, for step (a) *IEEE P802.1s/D6* discloses limitations in the base claim.

For step (b) *IEEE P802.1s/D6* is silent or deficient to the further limitation electing a root device including identifying a root port.

IEEE 802.1d teaches the further recited limitation above at e.g., Section 8.3 on starting on page 59.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *IEEE P802.1s/D6* to include the well-established principals of spanning tree per the 802.1d specification.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation electing a root device including identifying a root port. In particular, the motivation for modifying the reference or to combine the reference teachings would be to perform spanning tree as it is taught in the specification. In particular, *IEEE 802.1d* is the specification for spanning tree. Second, there would be a reasonable expectation of success since *IEEE P802.1s/D6* depends on *IEEE 802.1d*, see e.g., page 10, lines 34-41. In addition, each instance operates independently unless otherwise specified such that the teachings for a single spanning tree implementation apply. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 11**, in addition to Section 14.2 starting on page 29 of *IEEE P802.1s/D6* see the obviousness rejection above for claim 6 where it also would have been obvious to one skilled in the art to further apply spanning tree as it is taught per the specification. Examiner notes a similar motivation, and reasonable expectation of success.

As to **claims 12-14**, in addition to figure 14-1 of *IEEE P802.1s/D6* see the obviousness rejection above for claim 6 where it also would have been obvious to one

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skilled in the art to further apply spanning tree as it is taught per the specification.

Examiner notes a similar motivation, and reasonable expectation of success.

As to **claims 19-21**, in addition to Section 8.3.5 on page 63 of *IEEE P802.1s/D6* see the obviousness rejection above for claim 6 where it also would have been obvious to one skilled in the art to further apply spanning tree as it is taught per the specification.

Examiner notes a similar motivation, and reasonable expectation of success. Examiner notes a reasonable but broad interpretation of "tunneling".

As to **claim 25**, see similar rejection to claim 7.

Allowable Subject Matter

8. **Claim 10** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

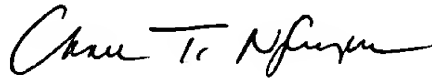
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663


DWF



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